Abstracts

Nondestructive Gyrotron Cold-Cavity Q Measurements

P.P. Woskoboinikow and W.J. Mulligan. "Nondestructive Gyrotron Cold-Cavity Q Measurements." 1987 Transactions on Microwave Theory and Techniques 35.2 (Feb. 1987 [T-MTT]): 96-100.

A novel method for cold testing a gyrotron resonator to determine its total Q is presented. Probing radiation is coupled into the resonator through its radiation pattern. A sensitive heterodyne receiver is used in the far field to detect the reradiated cavity resonances. Good agreement between measurement and calculated total Q is found for several 140-GHz gyrotron resonators in the TE/sub 031/, TE/sub 032/, TE/sub 231/, and TE/sub 611/ modes.

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